

THE AIMS AND METHODS OF GRADUATE STUDY.*

By SIR HUMPHRY ROLLESTON, K.C.B.,

M.D., F.R.C.P.,

PRESIDENT OF THE ROYAL SOCIETY OF MEDICINE; EMERITUS
PHYSICIAN, ST. GEORGE'S HOSPITAL.

THE universal process of reconstruction has led to much discussion on medical education, as the writings of Sir Clifford Allbutt, Dr. Fortescúe-Brickdale, Sir James Mackenzie, Sir George Makins, Mr. Thelwall Thomas, Sir George Newman, and others testify, and the present moment affords an opportunity to review some of the problems in connexion with graduate, usually and perhaps unnecessarily called post-graduate, education and teaching.

It is often said, especially in introductory addresses, that we remain students all our days, and this of course should be true; but, in assuming that we are industrious students, possibly some of us flatter ourselves—as an unconscious compensation for the apparently modest admission—for in the face of many distractions it is not so easy to carry this ideal into practical effect as it may seem at first sight. It is natural, by glancing at the weekly journals, to keep more or less in the fashion, so as to be familiar with new names and thus avoid being too obviously out of date, but more than this may be difficult for want of a definite stimulus; the bogey of examination has been safely left behind, and it is only in the naval and military services that the earlier steps of promotion are accompanied by study leave and an examination test. Without some such incentive it is only too easy to stagnate in a gradually narrowing groove, and to remain satisfied with the same outlook and the methods that held the field at the time of qualification, but have become obsolete. The advance of medical science is so rapid that without knowing it—and he seldom does—a man easily becomes a medical Rip Van Winkle. In 1911 the late Dr. J. B. Murphy⁴ of Chicago suggested that the licence to practise should be granted only for a certain number of years, five or ten, and that at the expiration of this period practitioners should be required to pass an

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examination or take a prescribed course of study. The idea of a temporary diploma with a renewal contingent on an examination is not likely to meet with an enthusiastic reception.

But a less drastic step towards the same end would be the grant of some kind of a higher diploma, or even of a degree after a series of yearly courses or after a single prolonged course. This addition would perhaps be analogous to the bar to the D.S.O. or the Military Cross. It might be suggested that whereas an M.B. degree is the crown of undergraduate work, the M.D. now awarded for a thesis or by examination should be given after proof of graduate education. If such a scheme were general the habit of graduate education would in time become almost obligatory instead of optional, and would enable the graduate course to be standardized just as that demanded for qualification has long been. At first sight this may seem a revolutionary proposal, but the principle has long been acted upon in the diplomas in public health and other special branches; and in America certificates, which vary in their value and the standard required, because many post-graduate institutions are proprietary, are given after a course. Certificates were, indeed, given after the Emergency Post-graduate Course of the Fellowship of Medicine. At Harvard, where the minimum time qualifying for a certificate is four months of work occupying the whole day, the question of these degrees was under discussion as long ago as 1913; and though the matter was postponed, the personal opinion of the Dean of the Graduate School¹ was in favour of their ultimate establishment, and to the effect that a systematic course of at least eight months should be required.

Immediate Need of Organization.

The need for organization of graduate teaching on a large scale is urgent because, owing to the reluctance of English-speaking nations and their allies to go to Berlin, Vienna, Munich, and other medical centres of the Central Empires, there is a great opening for efficient and complete graduate facilities in this country, and especially in London. That the need exists has been thoroughly realized both in America and in France, where extensive preparations are being made to obviate the necessity formerly felt for a journey elsewhere to acquire the desired facilities. London's unrivalled wealth in clinical material obviously indicates that it should be the leading centre of graduate teaching. Yet though there have been various post-graduate colleges since 1890, when the first scheme under the late Sir Jonathan Hutchinson was inaugurated, it must be admitted that they have not successfully competed with those abroad. During 1919 the Fellowship of Medicine, a body originally formed to promote friendly relations among our brethren of the Dominions and Allies, organized emergency courses, mainly attended by the medical officers of the Dominion Forces and the U.S.A. Medical Corps, who

were authorized by their Governments to avail themselves of graduate instruction before they returned home. Similar courses were held elsewhere—for example, in Edinburgh, Glasgow, Manchester, and Birmingham. Courses on the same lines are now going on under the amalgamated Fellowship of Medicine and the London Post-Graduate Association; Edinburgh, Glasgow, Bristol, and Norwich are also engaged in this work. It is sincerely to be hoped that this scheme will be so expanded that a permanent Imperial graduate institution will be organized in London to attract men from the Dominions, India, Egypt, America, and abroad, as well as from this country, in the same way as Berlin and Vienna used to attract them in the past. This matter will be referred to later.

The Organization Needed.

Organized graduate instruction may be divided into three distinct forms from the point of view of time:

FORMS OF GRADUATE INSTRUCTION REQUIRED.

- I. The continuation of education immediately after qualification :
 - A. Classes for higher examinations and special diplomas
 - B. Training for general practice.
 - C. Training for clinical and pathological research.
- II. The continuous education of the general practitioner :
local hospitals and clinics.
- III. Periodic refresher courses.

I.

The continuation of education directly after qualification; this again is of various kinds, and to some extent depends on what branch of the profession the newly qualified man intends to adopt—general practice, public health, the naval, military, or colonial services, specialist or consultant practice, or laboratory research. In any event a resident post as house-physician or house-surgeon is advisable, and in most branches absolutely essential. Quite recently I heard a very distinguished physician ask the pertinent question, "Have you ever known a man recover from the handicap of not having held a resident appointment?"

(A) A brief reference should be made to advanced classes for higher examinations, such as the M.D., M.S., M.Ch., F.R.C.S., and the diplomas of Public Health, Tropical Medicine, Ophthalmology, and other special branches. The first four have usually been taken at the graduate's original hospital comparatively soon after qualification; but the character of the instruction in all of them is obviously so different from that of undergraduate schools that it might with advantage be included in a well organized graduate scheme, and this specially applies in the case of older men who, after some years in practice, are anxious to take a higher degree. The work for the

diplomas of Ophthalmology, Psychiatry, and Tropical Medicine can obviously be most efficiently carried out at special hospitals; and instruction in industrial medicine—namely, the care of the health of factory workers, a branch of public health and preventive medicine destined to be of the greatest importance—must be given in the neighbourhood of manufacturing centres.

(B) Before qualification few men realize that there will be much more to learn when once the portal is safely passed; when, however, this has been negotiated, they soon begin to see that, like the preliminary subjects of the so-called ancillary sciences, the hospital knowledge of their professional subjects is only a further though more complete preliminary to the efficient practice of the healing art. Hospital and ordinary practice essentially deal with different aspects and stages of disease; hospital patients are usually acutely ill or well advanced in chronic disease, and mainly require curative or merely palliative treatment, whereas ordinary practice is largely concerned with minor ailments, especially dyspepsia, and the early stages of disease, and should, accordingly, be largely preventive. There is therefore a new aspect of medicine before the recently qualified medical man, even after he has had the great advantage of a resident appointment. When launched into practice he finds that he is at sea, and often the landmarks of definite organic disease on which he has been accustomed to rely in hospital work fail him. This is much more marked now than in the old days of apprenticeship, when a medical student began his career as an unqualified assistant and then did his hospital work before going up for his examinations. A return to this plan is impossible; is there any substitute? Possibly Sir James Mackenzie's idea of the appointment to teaching hospitals of one or more physicians who have spent ten or more years of their professional life in general practice might in some degree meet this need, especially if in connexion with the out-patient department there was an outdoor visiting department, as in some dispensaries, under the supervision of this new type of hospital physician.

(C) Graduates who after holding resident appointments have decided to aim at a consulting and hospital career require further opportunities for clinico-pathological work; a certain number in the past have managed to obtain it, largely on their own initiative, by holding posts such as registrars at hospitals or assistants in the pathological or physiological laboratories, or university studentships. Beit fellowships and grants from various scientific bodies have also enabled men to devote themselves to various lines of research. More opportunities for this line of work will, it may be expected, now become available in connexion with the whole-time directors of clinical units, where help and inspiration might also be given to men from a distance. This is the period for the training in systematic investigation of the future teacher in medicine, who should thereby learn how to direct others in his turn, and with them to advance the science of medicine.

II.

The continuous education of the general practitioner. A continuous process of self-education depending on reading the medical periodicals and textbooks and by keeping careful notes of cases, aided to some extent by attendance at the local medical society, is, of course, possible. Many men no doubt carry out the ideal so appropriate to England, which has been called "the land of individual effort," but the difficulties are great, and it is not to be wondered at that the good resolutions made at the outset fail in the face of adverse circumstances, such as overwork and want of urgent stimulus, to maintain this high ideal. Some men, more fortunately placed by being able to use opportunities in connexion with a local hospital, find the way easier. Local hospitals are a comparatively untapped source for organized graduate instruction, and there should not be any difficulty in arranging demonstrations and a more extended system of clinical assistantships; and in the future the Ministry of Health may multiply these facilities, among which attendance at venereal, tuberculous, psychiatric, and other clinics may play a part. The benefit to the teachers would also be considerable; this was well put more than a hundred years ago by Lyman Spalding³ to a colleague who proposed to resign his professorship: "Look at the Princes or rather the Fathers of Physic. . . . What has put them at the head of the profession? Nothing but their being compelled to labour, and annually to review their profession, and incorporate with their old stock all the new improvements. Show me a man in private practice who does this annually. He is not to be found. But your friends say that you can do this, yet stay at home. I acknowledge this, but tell me honourably, will you do it? No, Sir, you have no inducement."

III.

Periodic courses of instruction so as to keep practitioners, particularly those isolated in country districts, up to date in recent methods of diagnosis and treatment. They thus learn what can be expected from expert pathological investigation, and gain a broader outlook from contact with other minds and men. These refresher courses should be taken every five years or oftener, and should be both general and special in character, dealing with clinical medicine, surgery, and gynaecology, and also with the special branches, such as ophthalmology, laryngology, orthopaedics, and radiology. The latter should be so arranged in series that a man could either get a good elementary course in a comparatively short time or by taking more elaborate courses and devoting himself entirely to the subject could eventually become qualified for this special branch of work. The instruction should be essentially practical rather than didactic, with demonstrations in preference to set lectures. Too much stress can hardly be laid on the importance of providing ample

facilities for clinical work, particularly in the special courses in which clinical assistantships should when possible be available, so that the technique of diagnosis and treatment can be thoroughly mastered.

A Graduate Hospital School.

The graduate instruction should be centred in a large hospital with which neighbouring special hospitals may be affiliated, and the organization of the extensive facilities available in London should be carried on at a central bureau. The graduate schools in the provinces should also be co-ordinated with the central organization, which may most conveniently have its home in London. Centralization, especially in London, where much time is necessarily spent in going from one hospital to another, is important. The hospital should be entirely devoted to graduate teaching, for general experience proves that undergraduate and graduate instruction cannot be satisfactorily carried out at the same time and in the same institution. Such a hospital, fully equipped with modern laboratories, would take a long time to build under present conditions; and as it is most important that such a hospital should be in working order at the earliest possible moment, it has been suggested that some teaching undergraduate hospital should be given up to graduate instruction. The teaching staff of the graduate hospital and school raises some difficult points; its members should be well known for their teaching ability and in the full tide of their energies. Such men would of course be engaged elsewhere, and in order to obtain their services some plan by which they could be seconded from their existing chairs without losing them would be necessary. A period of years—five or more—has been suggested, but this would make it very difficult to keep their permanent posts open, and it would be better that they should take service at the graduate hospital for short terms of a few months in each year. If the graduate hospital is started *de novo* there would be much less difficulty than in the event of a teaching hospital with its staff being taken over for graduate instruction. In the latter case some of the original staff would necessarily have to make room for the temporary service of outside teachers, and, unless an alternating service, such as obtains in some American hospitals, be adopted, the question of providing an equivalent position would have to be faced.

The duration of these courses also requires consideration, as a man can rarely spend many weeks away from his practice and is then naturally disinclined to sacrifice the whole of his hard-earned holiday. Time is money, and though time thus expended is a good investment, the available capital is too often small. As a result the courses in this country for general practitioners have usually been short and intensive—lasting two or three weeks—such as those at St. Bartholomew's Hospital before the war, which were held in the summer vacation as most convenient both

for the general practitioners and from the point of view of the undergraduate school. In 1909, at the International Congress at Buda-Pesth, the opinion was definitely expressed that the State should provide these courses free of charge, and, according to Abraham Flexner,² the Central Committee for post-graduate education, with its headquarters in Berlin, had in 1912 organized gratuitous courses for practitioners in forty-eight of the larger cities of the German empire. In this country as the State, through the University Grants Committee with the concurrence of the Board of Education, now subsidizes undergraduate teaching, it is only logical that it should also assist in graduate instruction, and there is reason to believe that it would adopt a sympathetic attitude to this proposal. If in the future a general medical service subsidized by the State comes into being, as seems not improbable, the duty of the Government to provide medical men engaged in such work with periodic study leave would be a natural corollary, so as to correspond to the condition of service in the navy and army. In such conditions a course of three or more months would be practicable and appropriate, especially if some step in promotion, a higher diploma or degree, depended upon attending and showing evidence of having benefited by a somewhat prolonged course.

REFERENCES.

- ¹ H. D. Arnold, *Boston Med. and Surg. Journ.*, 1913, clviii, 265.
² A. Flexner, *Medical Education in Europe*, 318, 1912. ³ Vide H. M. Hurd, *Johns Hopkins Hosp. Bull.*, Baltimore, 1919, xxx, 125. ⁴ J. B. Murphy, *Journ. Amer. Med. Assoc.*, Chicago, 1911, lvii, 5.

